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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/647,806	08/25/2003	Rainer Gadow	4965-000159	2344
27572	7590	06/06/2005	EXAMINER	
HARNESS, DICKEY & PIERCE, P.L.C. P.O. BOX 828 BLOOMFIELD HILLS, MI 48303			PAIK, SANG YEOP	
			ART UNIT	PAPER NUMBER
			3742	

DATE MAILED: 06/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/647,806

Applicant(s)

GADOW ET AL.

Examiner

Sang Y. Paik

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 25 February 2005.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-18 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-18 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 4, 5, 9-13, 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Martin et al (US 3,978,315) in view of Button (US 3,610,88) and Coates et al (US 6,037,572).

Martin shows a ceramic cooktop with a cooktop (1) made of glass ceramic, an intermediate electrically conductive layer (2) made of a cermet material having a metal matrix of cobalt and a ceramic material including ceramic oxides, an insulating layer (3) made of cordierite, and a heat conductor layer (4). However, Martin does not show the claimed applied layers have the thermally sprayed structures.

Button shows a ceramic plate upon which an electrically conductive layer having the thermally sprayed structure applied thereto. Button shows using the thermal spray coating including the plasma spraying to provide the thermally sprayed conductive layer. Coates shows a ceramic plate with a dielectric ceramic layer having the thermally sprayed structure that was applied with the high temperature paint or plasma or flame sprayed ceramics.

In view of Button and Coates, it would have been obvious to one of ordinary skill in the art to adapt Martin with the claimed applied layers having the thermally sprayed structure that is

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known in the art to provide a good adherence of the conductive or dielectric layers to the ceramic plate.

3. Claims 1 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Martin in view of Button and Coates as applied to claims 4, 5, 9-13, 17 and 18 above, and further in view of Alexander (US 3,110,571) or Flaitz et al (US 4,764,341).

Martin in view of Button and Coates shows the ceramic cooktop claimed except a ceramic bonding layer.

Alexander shows a ceramic bonding layer to bond a ceramic to a metal. Flaitz also shows a ceramic bonding layer to bond a ceramic substrate to a metallic layer. In view of Alexander or Flaitz, it would have been obvious to one of ordinary skill in the art to adapt Martin, as modified by Button and Coates, a ceramic bonding layer to provide a ceramic bonding layer between a ceramic substrate and a metallic layer such as the cermet material to more securely bond such layers.

4. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Martin in view of Button and Coates, and Alexander or Flaitz et al as applied to claims 1 and 3 above, and further in view of Strange (US 5,728,638).

Martin in view of Button and Coates, and Alexander or Flaitz shows the ceramic cooktop claimed except the intermediate layer is made titanium oxide.

Strange shows a cermet material having titanium oxide (titania). Strange shows that the cermet material provides a mechanically strong material with corrosion and wear resistance properties. In view of Strange, it would have been obvious to one of ordinary skill in the art to adapt Martin et al, as modified by Button and Coates, and Alexander or Flaitz, with the

intermediate layer made with titania to provide a mechanically strong material that also has corrosion and wear resistance properties.

5. Claims 6-8 and 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Martin in view of Button and Coates as applied to claims 4, 5, 9-13, 17 and 18 above, and further in view of Strange (US 5,728,638) or Rousset et al (US 5,462,903) or Howard et al (US 5,227,345).

Martin in view of Button and Coates shows the ceramic cooktop claimed except providing the cermet material containing a metal matrix of nickel, cobalt and chromium and the carbide particles such as tungsten carbides or chromium carbides.

Strange shows a cermet material including the metal matrix of nickel, chromium and cobalt and the ceramic oxides such as silica or alumina along with the oxide or carbide form of chromium. Strange also shows that tungsten is included in the cermet material.

Rousset also shows a cermet material including the metal matrix of nickel, chromium and cobalt and the ceramic oxides such as alumina. Rousset teaches that such a composite cermet material produces a mechanical and thermal resistance when exposed to a high temperature.

Howard also shows a cermet material including the metal matrix of nickel, chromium and cobalt with the ceramic materials in that are in the form of oxides, nitrides or carbides. Howard et al further show it is known in the art that tungsten carbide and chromium carbides are used with cobalt or nickel to make a cermet material.

In view of Strange, Rousset or Howard, it would have been obvious to one of ordinary skill in the art to adapt the intermediate layer of Martin, as modified by Button and Coated, with

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the cermet material nickel, cobalt and chromium with chromium carbide or tungsten carbide to improve the corrosion or wear resistance when exposed to a high temperature.

***Response to Arguments***

6. Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sang Y. Paik whose telephone number is 571-272-4783. The examiner can normally be reached on M-F (9:00-4:00) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robin Evans can be reached on 571-272-4777. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

S. Paik

Sang Y Paik  
Primary Examiner  
Art Unit 3742

syp